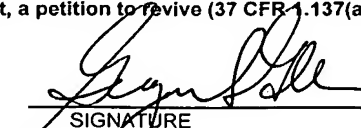


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| TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371 | | ATTORNEY'S DOCKET NUMBER PD-202131 U.S. APPLICATION NO. (If known, see 37 CFR 1.5) 10/532509 |
| INTERNATIONAL APPLICATION NO. PCT/US03/033130 | INTERNATIONAL FILING DATE 17 October 2003 | PRIORITY DATE CLAIMED 25 October 2002, 10 October 2003 |
| TITLE OF INVENTION ESTIMATING THE OPERATING POINT ON A NON-LINEAR TRAVELING WAVE TUBE AMPLIFIER | | |
| APPLICANT(S) FOR DO/EO/US ERNEST C. CHEN and SHAMIK MAITRA | | |
| Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information: | | |
| 1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a submission under 35 U.S.C. 371. 2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a submission under 35 U.S.C. 371. 3. <input type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below. 4. <input checked="" type="checkbox"/> The US has been elected (Article 31). 5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) a. <input type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> has been communicated by the International Bureau. c. <input checked="" type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). 6. <input type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)). a. <input type="checkbox"/> is attached hereto. b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4). 7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> have been communicated by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input checked="" type="checkbox"/> have not been made and will not be made. 8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). 9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). 10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). | | |
| Items 11 to 20 below concern document(s) or information included: | | |
| 11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. 12. <input checked="" type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 13. <input type="checkbox"/> A preliminary amendment. 14. <input type="checkbox"/> An Application Data Sheet under 37 CFR 1.76. 15. <input type="checkbox"/> A substitute specification. 16. <input type="checkbox"/> A power of attorney and/or change of address letter. 17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821- 1.825. 18. <input type="checkbox"/> A second copy of the published International Application under 35 U.S.C. 154(d)(4). 19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4). 20. <input type="checkbox"/> Other items or information: | | |

This collection of information is required by 37 CFR 1.414 and 1.491-1.492. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering information, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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|--|--------------|---|---------|---|----|
| U.S. APPLICATION NO. (if known, see 37 CFR 1.5) 10/532509 | | INTERNATIONAL APPLICATION NO. | | ATTORNEY'S DOCKET NUMBER | |
| The following fees have been submitted | | | | CALCULATIONS PTO USE ONLY | |
| 21. <input checked="" type="checkbox"/> Basic national fee..... \$300 | | | | \$ 300.00 | |
| 22. <input checked="" type="checkbox"/> Examination fee If International preliminary examination report prepared by USPTO and all claims satisfy provisions of PCT Article 33(1)-(4)..... \$100 All other situations..... \$200 | | | | \$ 100.00 | |
| 23. <input checked="" type="checkbox"/> Search fee Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority..... \$100 International Search Report prepared and provided to the Office..... \$400 All other situations..... \$500 | | | | \$ 100.00 | |
| TOTAL OF 21, 22 and 23 = | | | | \$ 500.00 | |
| <input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing or computer program listing filed in an electronic medium). The fee is \$250 for each additional 50 sheets of paper or fraction thereof. | | | | | |
| Total Sheets | Extra Sheets | Number of each additional 50 or fraction thereof (round up to a whole number) | RATE | | |
| - 100 = | /50 = | | x \$250 | \$ | |
| Surcharge of \$130.00 for furnishing the oath or declaration later than 30 months from the earliest claimed priority date (37 CFR 1.492(h)). | | | | \$ | |
| CLAIMS | NUMBER FILED | NUMBER EXTRA | RATE | \$ | |
| Total claims | 42 - 20 = | 22 | x \$ 50 | \$ 1100.00 | |
| Independent claims | 3 - 3 = | 0 | x \$200 | \$ 0 | |
| MULTIPLE DEPENDENT CLAIM(S) (if applicable) | | | + \$360 | \$ | |
| TOTAL OF ABOVE CALCULATIONS = | | | | \$ 1100.00 | |
| <input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by 1/2. | | | | | |
| SUBTOTAL = | | | | \$ 1600.00 | |
| Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)). | | | | \$ | |
| TOTAL NATIONAL FEE = | | | | \$ 1600.00 | |
| Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property | | | | \$ 40.00 | |
| TOTAL FEES ENCLOSED = | | | | \$ 1640.00 | |
| | | | | Amount to be refunded: | \$ |
| | | | | Amount to be charged: | \$ |
| a. <input type="checkbox"/> A check in the amount of \$ _____ to cover the above fees is enclosed. b. <input checked="" type="checkbox"/> Please charge my Deposit Account No. <u>50-0383</u> in the amount of \$ <u>1600.00</u> to cover the above fees. A duplicate copy of this sheet is enclosed. c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>50-0383</u> . A duplicate copy of this sheet is enclosed. d. <input type="checkbox"/> Fees are to be charged to a credit card. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038. | | | | | |
| NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status. | | | | | |
| SEND ALL CORRESPONDENCE TO: | | | | | |
| The DIRECTV Group, Inc. RE/R11/A109 P. O. Box 956 El Segundo, California 90245 | | | | | |
| | | | |  SIGNATURE Georgann S. Grunebach NAME 33,179 REGISTRATION NUMBER | |

10/532509

IN THE UNITED STATES

JC13 PCT/PTO 25 APR 2005

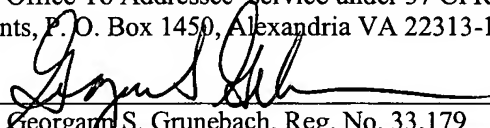
Applicant(s): Ernest C. Chen and Shamik Maitra

Docket No.: PD-202131

Title: ESTIMATING THE OPERATING POINT ON A NON-LINEAR TRAVELING WAVE
TUBE AMPLIFIERCERTIFICATE OF MAILING UNDER 37 CFR 1.10
Express Mail mailing label number: EU433761955US
Date of Deposit: April 25, 2005

I hereby certify that this paper or fee is being deposited with the United States Postal Service 'Express Mail Post Office To Addressee' service under 37 CFR 1.10 and is addressed to Mail Stop PCT, Commissioner for Patents, P. O. Box 1450, Alexandria VA 22313-1450.

By:


Georgann S. Grunebach, Reg. No. 33,179MAIL STOP PCT
Commissioner for Patents
P. O. Box 1450
Alexandria VA 22313-1450

Dear Sir:

We are transmitting herewith the attached:

- ☒ Transmittal sheet, in duplicate, containing Certificate of Mailing Under 37 CFR 1.10.
- ☒ Form PTO-1390: TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371.
- The fee has been calculated as shown below in the "Claims as Filed" table.
- ☒ Copy of Declaration of Inventorship as filed in PCT/US03/033130.
- ☒ Copy of Assignment and Assignment Recordal Cover Sheet.
- ☒ A charge to Deposit Account in the amount of \$1600.00 to cover the Total National Fee and \$40.00 to cover the Assignment Recordal Fee (**Total Fees: \$1640.00**)
- ☒ Return postcard.

CLAIMS AS FILED

| Number of Claims Filed | In Excess of: | | Number Extra | | Rate | | Fee |
|--|---------------|---|--------------|---|----------|---|-----------|
| Basic National Stage Fee | | | | | | | \$300.00 |
| National Stage Search Fee-US was ISA | | | | | | | \$100.00 |
| National Stage Examination Fee-US was IPEA, and all claims satisfy PCT Article 33(1)-(4) | | | | | | | \$100.00 |
| Total Claims | | | | | | | |
| 42 | 20 | = | 22 | x | \$50.00 | = | \$1100.00 |
| Independent Claims | | | | | | | |
| 3 | 3 | = | 0 | x | \$200.00 | = | \$0.00 |
| MULTIPLE DEPENDENT CLAIM FEE | | | | | | | |
| TOTAL NATIONAL FEE | | | | | | | \$1600.00 |

FEE FOR RECORDAL OF ASSIGNMENT

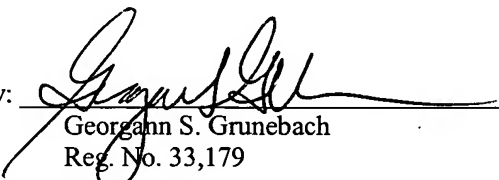
\$40.00

TOTAL FEES TO CHARGE TO DEPOSIT ACCOUNT

\$1640.00

Please charge all fees to Deposit Account No. 50-0383 of The DIRECTV Group, Inc. (formerly Hughes Electronics Corporation), El Segundo, California. A duplicate of this sheet is enclosed.

By: _____


Georgann S. Grunebach
Reg. No. 33,179

The DIRECTV Group, Inc.
RE/R11/A109
2250 E. Imperial Highway
P. O. Box 956
El Segundo, CA 90245

Telephone No. (310) 964-4615